

Present State of the (Cont.)

SGV/5799

Z. Kejval, V. Krauz, F. Kupka, F. Majer, K. Marvan, J. Novák, J. Obornal,
K. Paul, B. Seemmer, M. Honz, J. Částka, V. Šindeldr, and J. Šolc; Eds.:
A. Nejejsa and M. Vlk.

PURPOSE: This book is intended for engineers and scientific personnel concerned
with the pressworking of metals.

COVERAGE: Published jointly by Mashgiz and SNTL, the book discusses the present
state of the pressworking of metals in the USSR and the Czechoslovak Socialist
Republic. Chapters were written by both Soviet and Czechoslovak writers. No
personalities are mentioned. There are 129 references: 98 Soviet, 16 English,
8 German, 5 Czech, and 2 French.

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Card 7/8

MARTYNOV, Vitaliy Petrovich; BEDRAK, T.V., red.; DZGOYEV, A.A., tekhn.
red.

[Means for increasing the efficiency of automotive transportation]
Puti povysheniia proizvoditel'nosti avtomobil'nogo transporta.
Ordzhonikidze, Severo-Osetinskoe knizhnoe izd-vo, 1960. 68 p.
(MIRA 14:9)

(Transportation, Automotive)

ROGINSKIY, B. Ya., nauchnyy sotrudnik; MARTYNOV, V.P., nauchnyy sotrudnik

Improving the mathematical model of fleet distribution. Skon.
i ekspl. mor. transp. no.1:17-21 '63. (MIRA 17:8)

1. Leningradskoye vyssheye inzhenernoye morekhodnoye uchilishche
im. admirala Makarova.

1. The first part of the document is a list of the names of the individuals who were involved in the project. The names are listed in alphabetical order. The names are: [illegible]

2. The second part of the document is a list of the dates when the individuals were involved in the project. The dates are listed in chronological order. The dates are: [illegible]

3. The third part of the document is a list of the locations where the individuals were involved in the project. The locations are listed in alphabetical order. The locations are: [illegible]

4. The fourth part of the document is a list of the activities that the individuals were involved in. The activities are listed in alphabetical order. The activities are: [illegible]

9.2572
9.3270

S/109/60/005/010/005/031
E033/E415

AUTHORS: Lopukhin, V.M. and Martynov, V.P.

TITLE: Account of the Electron Velocity Spread in a Parametric Amplifier of Space-Charge Waves

PERIODICAL: Radiotekhnika i elektronika, 1960, Vol.5, No.10, pp.1614-1618

TEXT: The object of this article is to obtain the characteristic equation (for ω) for a stream of electrons, velocity and current-density modulated at a frequency ω , further velocity and current-density modulated at the double-frequency 2ω , taking into account the electron-velocity spread. It is assumed that the modulation at the double frequency is large compared to the signal-frequency modulation. The roots of the dispersion equation are obtained on the assumption of Poisson distribution of electron-velocities. The initial starting equations are the equations of motion obtained by Louisell and Quate (Ref.2)

(1)

(2)

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Account of the Electron ...

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E033/E415

where v is the velocity of the electron beam; i is the beam current density; v_0 is the constant component of the electron-velocity; I_0 is the constant component of the current-density; ω_q is the plasma frequency of a cylindrical beam, related to the plasma frequency of a one-dimensional beam ω_p by $\omega_q = R\omega_p$; R is the reduction coefficient. A simplified calculation method is proposed, viz. the propagation coefficient is calculated from the dispersion equation. From the characteristic equation it is concluded that, in general, the system can have four waves, the propagation constants of which depend on the system parameters and also on μ - the velocity-spread parameter. If the modulation depth is greater than a particular threshold value, then two roots of the characteristic equation are real, one corresponds to exponential growth and the other to exponential decay of the waves in the system. The other two roots are imaginary and characterize waves propagated with constant amplitude. When the modulation is less than the threshold value, then all the roots are imaginary and only waves of constant amplitude are propagated. Finally, it is shown that the electron spread leads to increase in the value of the critical threshold modulation and reduction in

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Account of the Electron ...

S/109/60/005/010/005/031
E033/E415

the gain. There are 2 figures and 10 references: 4 Soviet
and 6 non-Soviet.

ASSOCIATION: Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo
universiteta im M.V.Lomonosova Kafedra radiotekhniki
(Division of Physics, Moscow State University imeni
M.V.Lomonosov, Department of Radioengineering)

SUBMITTED: December 15, 1959

Card 3/3

22201

6.6000 (3502, 1159)

S/188/61/000/001/002/009
B108/B209

9.3140 (2301, 1140, 1141)

AUTHORS: Kutsova, N. T., Martynov, V. P.

TITLE: Calculation of the parametric amplification on an electron beam with given ejection field

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya 3, fizika, astronomiya, no. 1, 1961, 16-21

TEXT: The interaction of an electron beam, velocity- and density-modulated by a signal of frequency ω , with an electric alternating field of frequency 2ω has been calculated. The problem is first solved without consideration of Coulomb forces. In the range $x > 0$, the electric field is given by $E_y = E_z = 0$; $E_x = E_0 \cos(2\omega t - \beta x)$. The authors then calculate the first harmonic of the electron current representing the amplified signal of frequency ω . The equation of motion for the electron is $\ddot{x} = \eta E_0 \cos(2\omega t - \beta x)$ (1) with the initial conditions $x(t_0) = 0$ (2) and $\dot{x}(t_0) = v_0 [1 + v \sin(\omega t_0 + \psi_1)]$ (3), where η denotes the specific charge,

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S/188/61/000/001/002/009
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Calculation of the parametric...

$v_0 = \sqrt{2qV_0}$ the constant component of the electron velocity, V_0 the accelerating potential, and ν a parameter accounting for the velocity modulation of the convection current in the beam. The density j of this convection current at time t in the plane x is determined from the equation of continuity: $j(x, t) = j(0, t_0) \frac{dt_0}{dt} = I_0 [1 + \xi \sin(\omega t_0 + \psi_2)] \frac{dt_0}{dt}$. (5)

(where I_0 denotes the constant portion of j , and ξ is a parameter accounting for the density modulation) when writing Eq. (1) in the form $\ddot{x} = \mu \omega v_0 q \cos(2\omega t - \beta x)$ (4) and expanding the solution in a power series of μ and ν : $x = x_0 + \mu x_{1\mu} + \nu x_{1\nu} + \mu^2 x_{2\mu} + \nu^2 x_{2\nu} + \mu \nu x_{2\mu\nu} + \dots$ (6).

$\mu = \frac{eE_0}{m\omega v_0 q} \ll 1$; $q = 1 - \frac{v_0}{v_{\text{mean}}}$. The additional portion of j , caused by the variable field with 2ω , is then given by:

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Calculation of the parametric...

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$$j(\omega, x) = I_0 \left[\xi \sin \psi_2 + v \varphi_0 \cos \psi_1 - \xi \frac{\mu}{8\rho} A \sin(\psi_2 - 2\psi) + \right. \\ \left. + \frac{\mu}{8\rho} v \varphi_0 A \cos(\psi_1 - 2\psi) \right] \cos(\omega t - \varphi_0) + I_0 \left[\xi \cos \psi_2 - v \varphi_0 \sin \psi_1 + \right. \\ \left. + \frac{\xi u}{8\rho} A \cos(\psi_2 - 2\psi) + \frac{\mu}{8\rho} v \varphi_0 A \sin(\psi_1 - 2\psi) \right] \sin(\omega t - \varphi_0). \quad (7)$$

$$A = \sqrt{(\cos 2\Phi_0 - 1)^2 + (2\Phi_0 - \sin 2\Phi_0)^2}, \quad 2\psi = \arctg \frac{\cos 2\Phi_0 - 1}{2\Phi_0 - \sin 2\Phi_0}.$$

where $\varphi_0 = \frac{x(t, t_0)\omega}{v_0}$ is the absolute, and $\Phi_0 = qv_0$ the relative angle of electron passage. When the space charge of the electron beam is taken into account, the expression $\tilde{E}_{k+1} = -\frac{1}{\epsilon_0} \int_0^t j_k(x, t) dt$ (8) is made the starting point of a successive approximation. \tilde{E}_{k+1} stands for the (k+1)st approximation of the field of the space charge, and j_k for the k-th

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approximation of j. Introducing Eq. (7) into Eq. (8), one obtains an expression for the electric field, and when the equation of motion is solved therein, the following final expression is obtained for the current density: [t]

$$\begin{aligned} \bar{E}_{k+i} = -\frac{1}{i_0} \int_{-\infty}^t j_k(x, t) dt, \quad (8) \\ j(\omega t, x) = I_0 \cos(\omega t - \varphi_0) \left[\xi \sin \psi_1 \cdot \left(1 - \frac{\omega_p^2}{\omega^2} \frac{\varphi_0^2}{2} \right) + \right. \\ \left. + \nu \varphi_0 \frac{\omega}{\omega_p \varphi_0} \left(\frac{\omega_p}{\omega} \varphi_0 - \frac{1}{3!} \frac{\omega_p^3}{\omega^3} \varphi_0^3 \right) \cos \psi_1 - \frac{\xi \mu}{8\rho} A' \sin(\psi_1 - 2\psi') + \right. \\ \left. + \frac{\mu}{8\rho} \nu \varphi_0 A' \cos(\psi_1 - 2\psi') \right] + I_0 \sin(\omega t - \varphi_0) \left[\xi \cos \psi_1 \cdot \left(1 - \frac{\omega_p^2}{\omega^2} \frac{\varphi_0^2}{2} \right) - \right. \\ \left. - \nu \varphi_0 \frac{\omega}{\omega_p \varphi_0} \left(\frac{\omega_p}{\omega} \varphi_0 - \frac{1}{3!} \frac{\omega_p^3}{\omega^3} \varphi_0^3 \right) \sin \psi_1 + \frac{\xi \mu}{8\rho} A' \cos(\psi_1 - 2\psi') + \right. \\ \left. + \frac{\mu}{8\rho} \nu \varphi_0 A' \sin(\psi_1 - 2\psi') \right]. \quad (10) \\ A' = \left\{ \left[\cos 2\Phi_0 \left(1 + \frac{1}{4\rho^2} \frac{\omega_p^2}{\omega^2} \right) - \left(1 - \frac{\varphi_0^2 \omega_p^2}{2\omega^2} + \frac{1}{4\rho^2} \frac{\omega_p^2}{\omega^2} \right) \right]^2 + \right. \\ \left. + \left[2\Phi_0 \left(1 - \frac{\varphi_0^2}{6} \frac{\omega_p^2}{\omega^2} + \frac{1}{4\rho^2} \frac{\omega_p^2}{\omega^2} \right) - \sin 2\Phi_0 \cdot \left(1 + \frac{1}{4\rho^2} \frac{\omega_p^2}{\omega^2} \right) \right]^2 \right\}^{1/2}. \end{aligned}$$

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Calculation of the parametric...

$$2\psi' = \arctg \frac{\cos 2\Phi_0 \cdot \left(1 + \frac{1}{4p^2} \frac{\omega_p^2}{\omega^2}\right) -}{2\Phi_0 \left(1 - \frac{\gamma_0^2}{6} \frac{\omega_p^2}{\omega^2} + \frac{1}{4p^2} \frac{\omega_p^2}{\omega^2}\right) -} \\ - \left(1 - \frac{\gamma_0^2}{2} \frac{\omega_p^2}{\omega^2} + \frac{1}{4p^2} \frac{\omega_p^2}{\omega^2}\right) \\ - \sin 2\Phi_0 \left(1 + \frac{1}{4p^2} \frac{\omega_p^2}{\omega^2}\right)$$

$\omega_p = \left(\frac{\eta I_0}{v_0 \epsilon_0}\right)^{1/2}$ denotes the plasma frequency. The authors thank Docent V. M. Lopukhin for discussions. There are 4 figures and 6 references: 3 Soviet-bloc and 3 non-Soviet-bloc. The reference to the English-language publication reads as follows: Louisell W. H., Electronics and Control, 6, no. 1, 1, 1959.

ASSOCIATION: Kafedra radiotekhniki (Department of Radio Engineering)

SUBMITTED: June 11, 1960

Card 5/5

3783

S/188/62/000/003/008/012

B111/B112

9.4231

AUTHORS: Martynov, V. P., Klimov, B. M.

TITLE: Amplifier in a tube with reverse wave subject to additional modulation of the electron beam having the double frequency of the signal

PERIODICAL: Moscow. Universitet. Vestnik. Seriya III. Fizika, astronomiya, no. 3, 1962, 66-74

TEXT: The electron-beam amplifier giving a reverse wave of frequency ω for a modulation of the electron beam of frequency 2ω is calculated by the coupled-waves method (I. R. Pierce, J. Appl. Phys., 25, 2, 179-183, 1954). The equation of motion of the electron, the continuity equation, the Poisson equation, and the equation of the retarding system for the reverse wave (Pirs, Lampa s begushchey volnoy, "Sovetskoye radio", 1957) served as initial equations. Six linear differential equations for the wave amplitudes of the electron velocity, convection current density, field strength along the electron path and conjugate complex quantities are obtained by linearizing the system of equations. Exact solution of these

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Amplifier in a tube with...

S/188/62/000/003/008/C12
B111/B112

equations is mathematically very laborious. The authors adopt instead the method of coupled waves, enabling them to divide the system into two subsystems which respectively describe the amplification of only fast waves and of only slow waves of a space charge. The amplification of a fast wave is studied under the assumption that the phase velocity of the slow wave differs essentially from that of the fast one and from the phase velocity of the waves in the retarding system. The corresponding subsystem can again be divided into two further subsystems, the solutions of which represent slow waves having constant amplitudes and undisturbed phase velocities and four types of fast waves having constant rates of propagation. Assuming simplified boundary conditions, a formula for the amplification factor of the field strength is given. Conclusion: The amplification factor depends largely on the modulation depth of the beam with the frequency 2ω , also on the phase angle between the amplified signal wave with the frequency ω and the wave which has the frequency 2ω . The amplification occurs only at negative b -values where b characterizes the difference between the velocity of the electron and that of the wave without an electron beam. At positive b -values the additional modulation of the electron beam causes a weakening of the amplified signal. Ideal

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Amplifier in a tube with....

S/188/62/000/003/008/012
B111/B112

amplification is obtained at parameter values such that the roots of the characteristic equation are purely imaginary. In this case the amplification is of interference type. There are 4 figures.

ASSOCIATION: Kafedra radiotekhniki (Department of Radio Engineering)

SUBMITTED: October 16, 1961

Card 3/3

9.2572

S/109/62/007/008/009/015
D409/D301

AUTHORS: Lopukhin, V.M. and Martynov, V.P.

TITLE: Theory of backward-wave electron-beam amplifier with preliminary double-frequency modulation of the electron beam

PERIODICAL: Radiotekhnika i elektronika, v. 7, no. 8, 1962, 1355-1360

TEXT: The results of this work were reported to the All-Union Conference of the MVSSO USSR on Radioelectronics, Khar'kov, 1960. By joint integration (on an electronic computer) of the equations of continuity and of motion of the electron, and of the equations of the backward-wave decelerating system, the authors obtained the amplitude distribution of the variable components of the current density, the electron-velocity distribution, and that of the delay-line voltage; the gain factor was also calculated. An electron beam, modulated at the frequency $2\omega_c$, travels in the field of the backward wave, created by the decelerating system; the voltage to be

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Theory of backward-wave ...

S/109/62/007/008/009/015
D409/D301

amplified has the frequency ω_c . The system of equations (of the electron and of the decelerating system) is set up, as well as the boundary conditions. Numerical integration was performed for 50 different sets of values of the parameters m , φ , b , a' , a_0 and β ; m denotes the depth of beam modulation at the frequency $2\omega_c$; φ is the phase angle between the waves with frequency ω_c and $2\omega_c$; a' is related to the beam's plasma frequency; a_0 is the space-charge parameter and β the propagation constant of the wave in the absence of the beam; b denotes the velocity difference between electron and wave. The results of the integration are shown in the following diagrams: Dependence of the gain factor G on the parameter b , dependence of G on m , dependence of the amplification on φ , and the distribution of the amplitudes of the current density, of the electron velocity, and of the voltage. Conclusion: Calculations showed that preliminary modulation of the electron beam shifts the gain curve towards the region of negative values of b . Optimum gain occurs if the mean electron-velocity becomes smaller than the velocity of the wave in the absence of the beam. For values of b , which correspond to maximum gain in an ordinary backward-wave amplifier, the ampli-

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Theory of backward-wave ...

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D409/D301

field signal of frequency ω_c is suppressed. G depends strongly on α and φ . There are 4 figures. The most important English-language reference reads as follows: G. Wade, R. Adler, Proc. IRE, 1959, 47, 1, 79.

ASSOCIATION: Fizicheskiy fakul'tet Moskovs'kogo gosudarstvennogo universiteta im. V.V. Lomonosova, kafedra radiotekhniki (Physics Division of Moscow State University im. V.V. Lomonosov, Radio Engineering Department)

SUBMITTED: October 17, 1961

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MARTYNOV, V.P.; KUZ'MINA, G.A.; CHARKIN, B.D.; NAMEDLI, R.M.

Backward-wave electron-beam amplifier with additional modulation
of the beam at double signal frequency. Radiotekh. i elektron.
8 no.3:524-527 Mr '63. (MIRA 16:3)

1. Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta
im. Lomonosova.

(Microwave tubes) (Electron beams)

MARTYNOV, V. P.

Tokarno-vintoreznyi bystrokhodnyi stanok; model' 1620. (Novye Mashiny, (Vestn. Mash., 1956, no. 4, p. 19)

High-speed screw-cutting lathe; model 1620, (New Machines).
DLC: TN4.V4

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

MARTYNOV, V. F.

Novyi rastochnoi stanok dlia obrabotki krupnykh detalei. (Vestn. Mash., 1950, no. 6, p. 47)

Refers to the 2631 model of the Sverdlov machine-tool construction plant.

A new boring machine for machining large parts.

DLC: TN4.V4

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

BOGATYREV, Yuriy Mikhaylovich; VASHURKOVA, Tamara Alekseyevna; MARTYNOV,
Vitaliy Petrovich; GUMSHANSKAYA, I.V., inzh., red.; L'VOV, D.S.,
kand.tekhn. nauk, red.; SHVETSOV, G.V., tekhn. red.

[Rapid induction heating of heat-resistant alloy ingots] Skoro-
stnoi induktsionnyi nagrev zagotovok iz zharoprochnykh spлавov.
Moskva, Filial Vses. in-ta nauchn. i tekhn. informatsii, 1958.
21 p. (Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt.
Tema 5. No.M-58-330/17) (MIRA 16:2)
(Heat-resistant alloys) (Induction heating)

86067

S/180/60/000/005/008/033
E073/E535

18 7500

1146, 1413

AUTHORS: Martynov, V. P. and Chukhleb, A. N. (Khar'kov)

TITLE: Influence of the Speed and Temperature of Deformation on the Phase Transformations in Austenitic Steels, 8

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo 1960, No. 5, pp. 96-99

TEXT: The investigations aimed at elucidating the influence of the speed of deformation at various temperature conditions on the phase transformations in 18-8 type steels. The steels 31T (Yalt) 18 and 314-654 (EI-654) were investigated, the main experiments being carried out by means of the steel Yalt. The deformation was effected by stretching and compression with the following speeds X

(m/sec): stretching - 3×10^{-5} , 1×10^{-3} , 0.13, 5, 40
compression - 1.66×10^{-4} , 0.13, 23, 40, 80

Deformation under dynamic conditions was effected by means of the impact of a missile which is thrown out from a tube by a detonation wave. The speed of movement of the missile at the instant of impact was assumed as being the deformation speed, by changing the weight of the used explosive this speed could be changed. The test

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E073/E535

Influence of the Speed and Temperature of Deformation on the Phase Transformations in Austenitic Steels

temperatures were: room temperature, -183°C and -196°C . The influence of the speed of deformation on the relative elongation of the tested steels at room temperature and at -183°C are graphed in Fig.1. Fig.2 shows the influence of the deformation on the local nature of the plastic deformation and the local nature of the α -phase during stretching at very low temperatures. The change in the quantity of α -phase as a function of the speed of deformation stretching at -183°C and compression at -196°C is plotted in Fig.3. Microphotos of one of the steels deformed by compression is shown in Fig.4. The following conclusions are arrived at: The speed of deformation has a considerable influence on the plasticity of type 18-8 steel. With increasing deformation speed the relative elongation decreases both at room and lower temperatures; thereby, an intensification will take place of the localization of the process of plastic flow. The deformation of steels at sub-zero temperatures leads to localization of the phase transformations. With increasing deformation speed, the quantity of the α -phase in 18-8 type steels decreases both in tension and compression. The

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S/180/60/000/005/008/033
E073/E535

Influence of the Speed and Temperature of Deformation on the Phase Transformations in Austenitic Steels

microstructure of specimens deformed by impact differs from those deformed by static forces by the formation of incompletely developed slip lines. The microstructure of specimens deformed by impact at sub-zero temperatures show inclusions of additional slip planes and twins and in the case of very high speeds of deformation it also shows Neumann bands and bending zones. There are 4 figures and 3 Soviet references.

SUBMITTED: June 28 1960

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MARTYNOV, V.P.

82639

S/126/60/010/02/009/020

E111/E352

18.7100

AUTHORS: Chukhleb, A.N. and Martynov, V.P.

TITLE: Gamma \rightarrow Alpha Phase Transformation During Ageing
in Type 18-8 Steels, Previously Deformed at a Sub-
zero Temperature

PERIODICAL: Fizika metallov i metallovedeniye, 1960, Vol. 10.
No. 2, pp 240 - 244

TEXT: The authors point out that as 18-8 steels are relatively insensitive to ordinary heat treatment it is particularly important to study the possibility of improving their mechanical properties by deformation. In the present work they report changes in properties of such steels, during heating, with and without deformations at room temperature and -183 °C. Type 1Kh18N9T and 1Kh18N9 steels were used. Deformation was by extension and ageing was effected at 200, 300, 400, 450, 500 and 600 °C. Phase changes were followed by X-ray structural and magnetic methods. Fig. 1 shows the relative magnetic susceptibility of 1Kh18N9T steel deformed to 30% at -183 °C as functions of holding time (hours) at various temperatures. The relative magnetic susceptibility for
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82639

S/126/60/010/02/009/020

E111/E352

Gamma \Rightarrow Alpha Phase Transformation During Ageing in Type 18-8 Steels Previously Deformed at a Sub-zero Temperature

the same material similarly pre-treated is shown in Fig. 2. together with hardness (Curve 1) as functions of temperature for one hour's ageing. The quantity of magnetic phase is shown as a function of temperature in Fig. 3 for 1Kh18N9 and 1Kh18N9T (triangles and spots, respectively). In Fig. 4 the quantity of magnetic phase is shown for 1Kh18N9T steel as functions of deformation for deformation at -183°C (Curve 1) and deformation at -183°C , followed by ageing for 1 hour at 400°C . Fig. 5 shows as functions of time the quantity of magnetic phase for various pre-treatments of the two steels. The work showed that for both steels secondary hardness appears with ageing at $225-425^{\circ}\text{C}$, due to formation of more magnetic phase. Holding time in ageing influences both phase changes and properties of such steels. An 18-8 steel hardened by plastic deformation at sub-zero temperatures can be further hardened by ageing for 1 hour at about 400°C .

Card 2/3

82639

S/126/60/010/02/009/020
E111/E352

Gamma \rightleftharpoons Alpha Phase Transformations During Ageing in Type 18-8
Steels Previously Deformed at a Sub-zero Temperature

There are 5 figures, 1 table and 5 references: 4 Soviet and
1 English.

SUBMITTED: September 4, 1959, originally,
March 8, 1960, after revision.

X

Card 3/3

20395

3/182/61/000/101/001/001
D038/D112

1.1200 06.10.1954

AUTHOR: Martynov, V.P.

TITLE: Intensification of the drawing process for austenitic stainless steels

PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, no. 5, 1961, 11-12

TEXT: The author proposes a new method of intensifying the stamping process (Fig. 2) of work pieces from X18H9 (Kh18N9) and X18H9T (Kh18N9T) steel grades at room temperature in one operation, whereby the extrusion coefficient K can be increased to 3.1 by single operation stamping and to 2.4 by two-operation stamping. Hitherto it was only possible to reach an extrusion coefficient K = 2.08. The method consists in selecting temperature conditions based on M_s , i.e. the lowest temperature at which austenite is not transformed into martensite and M_H (Mn), i.e. temperature at which the martensite starts forming during the process of continuous cooling (without deformation) in such a way that during the extrusion process formation of martensite is prevented in the heated flange and wall of the cup and intensified in the cooled critical section (the junction of the bottom and the wall of the cup). The flange was kept at a temperature of 130°C and the critical

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20395

Intensification of the drawing process..

S/182/61/000/005/003/006
D038/D112

section at 183°C. Liquid nitrogen (-196°C) used directly on the blank during extrusion ensured intense cooling of the critical section at high stamping speeds. Conclusions. Stamping process for austenitic steels can be improved if the role of the M_s and M_H points is considered (Fig. 4). The multi-stage stamping process can be replaced by a one-stage operation stamping when the extrusion coefficient is $K \leq 3.0$, and the two-stage stamping makes it possible to obtain articles with an extrusion coefficient $K = 5.2$. The flange heating is more effective in a steel in which a considerable amount of martensite forms during extrusion at room temperature. Heating flanges from Kh18N9 and Kh18N9T steel grades up to 150°C lowers the stamping effort 40-45%. Normal lubricants can be used in the process, and the work pieces require no subsequent heat treatment. There are 4 figures, and 6 references: 5 Soviet and 1 non-Soviet. The reference to an English language publication reads as follows: Post C.B. and Eberly, W.S., Stability of austenite in stainless steels. Transactions of Amer. Soc. for Met., v. 39, 1947, p 868.

Card 2/5

20395

S/182/61/000/005/003/006
D038/D112

Classification of the drawing process..

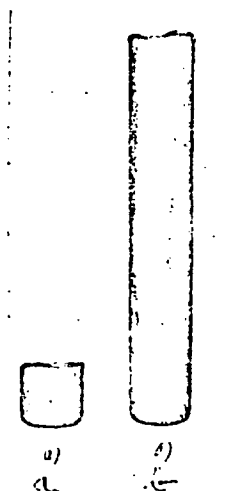


Fig. 1. Work pieces stamped from Kh18N9T steel in two operations; a - at room temperature with 2.3 extrusion coefficient; b - stamped by the new method with 5.2 extrusion coefficient

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20395

S/182/61/000/005/003/006
D038/D112

Intensification of the drawing process..

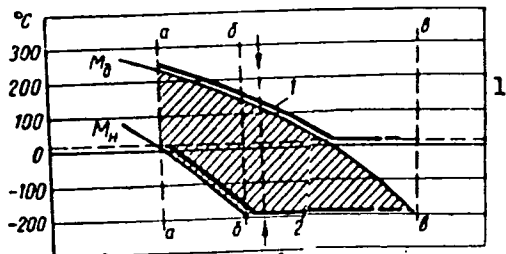


Fig. 4. Variations of M_0 and M_H points and optimum temperature of heating in the flange (curve 1), and cooling in the critical section (curve 2) at different content of alloying elements in austenite.

Card 4/5

20395

S/182/61/000/005/003/006
D038/D112

Intensification of the drawing process..

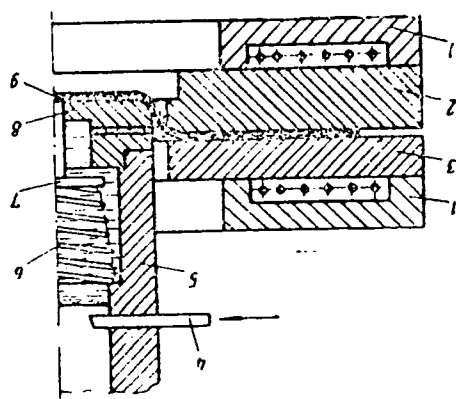


Fig. 2. Diagram of stamping with heating of the blank flange and cooling of the critical section and metal adjacent to it below 0°C:
1 - heater; 2 - counter die;
3 - blank holders; 4 - duct for liquid nitrogen; 5 - punch;
6 - spring; 7 - valve; 8 - punch tip; 9 - material being deformed.

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22987
S/182/61/000/007/006/006
D038/D112

11200
AUTHORS:

Checketa, I.A., Martynov, V.P.

TITLE:

Compensation of springing by local uneven heating

PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, no. 7, 1961, 36-37

TEXT: A simple method is suggested for the compensation of the so-called spring, or the effect of the angle of spring, in bending of sheet metal in bending presses. The method eliminates the need for expensive precision bending dies and the use of heavy presses for bending. The suggested method consists basically in heating the blank unevenly at the point of the bend, i.e. heating one side more than the other. The method was tested in the experiments with annealed B 95 (V95) aluminum alloy strips which were bent in a crank press. The blanks were heated to 400°C on one side and to 350°C from the other, as shown in the schematic. Current from 220-v network was fed through a step-down transformer (5) to a heating coil mounted in the press punch (4). The temperature of the punch was measured and regulated by a thermocouple (7) and a potentiometer (6). The springs (2) kept the specimen (3) in the die (1) in contact with the hot punch, until the metal was heated to the required temperature. After this operation the angle of spring in

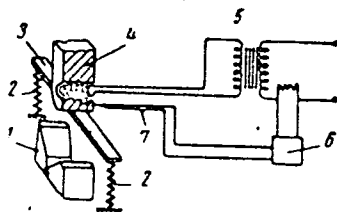
Card 1/2

Compensation of springing by local...

22987

S/182/61/000/007/006/006
D038/D112

V95 aluminum alloy was reduced from the usual 2030' at cold bending to 0024'. Experiments were also carried out with annealed "45" steel, and the local uneven heating decreased the angle of spring from 2°50' to 1°08' without any deleterious effect on the plasticity of the steel. There is 1 figure, and 1 table.



Schematic showing the method of compensating springing.

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1.1710

30460
S/129/61/000/011/009/010
E073/E135

AUTHORS:

Chukhleb, A.N., Candidate of Technical Sciences, and
Martynov, V.P., Engineer.

TITLE:

Influence of the temperature of deformation on the
mechanical properties of austenitic steels

PERIODICAL:

Metallovedeniye i termicheskaya obrabotka metallov,
no.11, 1961, 44-47.

TEXT:

The authors investigated the influence of preliminary deformation on the phase changes in austenitic steel during subsequent deformation at very low temperatures. They established the range of temperatures at which the method of successive deformation was effective and permitted combining high strength with high ductility. Commercial melts of the steels X18M9 (Kh18N9), X18M9T (Kh18N9T) and 3M612 (EI612) (0.05% C, 15.25% Cr, 36.60% Ni, 1.40% Ti and 2.97% W) were used in the experiments. In all the investigated steels deep cooling to -183 °C, without deformation, did not produce martensite transformation. A magnetometric instrument, which was described in an earlier paper of the authors, was used for recording the $\gamma \rightarrow \alpha$ transformations

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S/129/61/000/011/009/010
E073/E135

Influence of the temperature of ...

which occurred directly during the process of deformation. The experimental set-up enabled measuring simultaneously the tensile forces and recording the progress of martensitic transformation. Both in the preliminary and subsequent deformation, the steel was stretched, thus ensuring a more uniform distribution of the deformation along the cross-section than would be achieved by compression, torsion, rolling, etc. Extension at room temperature produced in the steels Kh18N9 and Kh18N9T formation of only a very insignificant quantity of the magnetic phase and this phase was detected only in specimens with high rates of deformation. Martensitic transformation was observed clearly during deformation of these steels at sub-zero temperatures and during plastic deformation (no phase changes were observed in the range of elastic deformations). Appearance of the α -phase was first observed at stresses slightly exceeding the yield point. Changes in grain size did not affect the kinetics of phase transformations in the steels under investigation. Deformation by extension at -183°C led to intensive α -phase formation and to an appreciable increase in strength. In the steel EI612 no α -phase was observed during stretching at 20 and -183°C . The results of the

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Influence of the temperature of ...

S/129/61/000/011/009/010
E073/E135

investigations have shown that the strength characteristics of the steel Kh18N9T depend to a considerable extent on the quantity of the martensitic phase, which will be the larger the lower the temperature during the second stage of deformation of the steel. The very favourable plastic properties obtained during subsequent deformation are due to the inclusion (formation) of additional slip planes. The temperature of the second stage of deformation (-35°C) was such that conditions were created which enabled formation of an adequate quantity of martensite for ensuring the possibility of inclusion of additional slip planes. The phase composition was determined by X-ray structural methods after fracture ($\delta_{\text{tot.}} = 80\%$), on specimens deformed at $+20$ and -35°C . It was established by X-ray structural analysis that specimens which were deformed under the described conditions contained 45% martensite. The presence of a large quantity of austenite in the steel permits further deformation at a lower temperature. A series of experiments was also carried out involving three-stage deformation of the steels Kh18N9 and Kh18N9T. If the steel was deformed at room temperature and then at -40°C by

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S/129/61/000/011/009/010

E073/E135

Influence of the temperature of ...

δ_{sum} = 75-83%, i.e. until necking commenced, and then was fractured at -183°C , very high plastic properties were obtained (δ_{tot} = 110-113%) with very high strength values (S_b = 180-190 kg/mm²). By changing the conditions of deformation and, consequently, the conditions of formation of martensite, 18-8 type steels with high mechanical properties can be obtained. (Author's Certificate No. 117268, October 30, 1958). The results can be utilized for developing a technology of treatment of these steels.

There are 4 figures, 1 table and 6 references: 5 Soviet-bloc and 1 non-Soviet-bloc. The English language reference reads as follows:

Ref.3: H. Fiedler, B. Averbach and M. Cohen, TASM, v.47, 1955.

ASSOCIATION: Khar'kovskiy aviatsionnyy institut
(Khar'kov Aviation Institute)

Card 4/4

S/137/63/000/002/024/034
A006/A101

AUTHOR: Martynov, V. P.

TITLE: The effect of temperature and deformation upon $\gamma \rightarrow \alpha$ -phase transformations, mechanical and technological properties of austenitic stainless steels

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 2, 1963, 20 - 21, abstract 21117 ("Tr. Khar'kovsk. aviats. in-ta", 1961, no. 21, 105 - 118)

TEXT: The magnetometric, X-ray structural and metallographic methods, and mechanical tests were used to investigate the effect of temperature, the degree and rate of plastic deformation upon $\gamma \rightarrow \alpha$ -transformations and mechanical properties of the following four steel grades: 1X18H9 (1Kh18N9), 1X18H9T (1Kh18N9T), 3H612 (EI612) (C 0.05%, Cr 15.25%, Ni 36.6%, Ti 1.4%, W 2.97%) and 3H654 (EI654). In all the investigated steels cooling down to -196°C without deformation did not cause the formation of martensite. As a result of elongation deformation of 1Kh18N9 and 1Kh18N9T steel at -183°C σ_b increases by a factor of 2.14 and 2.3, respectively. In EI612 steel possessing more stable austenite,

Card 1/3

S/137/63/000/002/024/034
A006/A101

The effect of temperature and...

relative increase of σ_b is 1.47. Strengthening of 1Kh18N9 and 1Kh18N9T steel is the result of case hardening and martensite formation. Investigations of the effect of the deformation speed within $3 \cdot 10^{-5}$ to 40 m/sec has shown that both at room temperature and -183°C the ductility of the steel decreases with a higher deformation speed. The amount of the α -phase, forming during static elongation is greater than in dynamic elongation to the same degree. The microstructure of dynamic-deformed specimens is characterized by the fact that the dislocation formation process does not fully occur in all the grains and on all the planes. With a decrease of the deformation temperature the slip takes place along new planes and twins appear in the microstructure. The temperature sequence of deformation affects the phase composition and the properties of the austenite. In steels 1Kh18N9 and 1Kh18N9T δ at -183°C is less than at $+20^\circ\text{C}$. However, if the deformation of the steel is consecutively conducted at -20 and -183°C , the steel together with high strength will show high ductility (δ 80%). The high strength properties and high ductility (δ 75 - 77%) are revealed in EI654 steel if it is deformed at -20 and -183°C . In EI612 steel high ductility in the process of consecutive deformation is not revealed, since in this steel $\gamma \rightarrow \alpha$ -transformations at -183°C are not observed. The effect of consecutive deformation

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The effect of temperature and...

S/137/63/000/002/024/034
A006/A101

manifests itself most strongly if the second stage of deformation is conducted at temperatures below -35°C . In case of 3-stage deformation (first at 20°C up to 0.9σ then at -40°C to σ 75 - 83%, i.e. until the beginning of a recess, and then at -183°C until breakdown) a value may be obtained with ϵ_{total} as high as 110 - 113%; the true ultimate strength S_B is 180 - 190 kg/mm^2 . In case of deformation first at -183°C to lower degrees, and then at -20°C , ductility at room temperature decreases. The strength characteristics do not change. Elongation of 1Kh18N9 and 1Kh18N9T steels at room temperature after preliminary deformation at -183°C is accompanied by intensive $\gamma \rightarrow \alpha$ -transformation. There are 15 references.

N. Kalinkina

[Abstracter's note: Complete translation]

Card 3/3

L 19186-63
ACCESSION NR:

EWP(k)/EWP(q)/EWT(m)/BDS
AR3004205

AFFTO/ASD Pf-h JD/HW
S/0276/63/000/003/V022/V023.

SOURCE: RZh. Tekhnologiya mashinostroyeniya, Abs. 5V139

AUTHOR: Martyanov, V. P.

TITLE: On selection of temperature ranges for multistage stamping-drawing of
austenitic steels 14

CITED SOURCE: Tr. Khar'kovsk. aviats. in-ta, vy*p. 21, 1961, 119-129

TOPIC TAGS: multistage stamping-drawing, austenitic steel, stainless steel,
drawout

TRANSLATION: A method for increasing stamping ability of austenitic stainless
steels is analyzed. Simultaneously heating of billet flange during drawing out
and cooling of the danger cross section in the transition zone from bottom to the
cylindrical part was performed. The special feature of the method consisted in
formation of the maximum amount of martensitic deformation at cooling and elimi-
nating the possibility of its formation at heating. These conditions are secured
by selection of heating and cooling temperatures in relationship to values of
martensitic points M_d and M_s (M_d -- minimum temperature at which the given type of

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L 19186-63
ACCESSION NR: AR3004205

deformation does not cause phase transformations; M_s -- temperature of the start of martensite formation at cooling). Heating of the flange should be carried out at a temperature of M_d up to $M_d / 25^\circ$; the cooling of danger cross section of the bottom part -- at the temperature of M_s up to $M_s / 25^\circ$. For Yal and Ya 1T steels, M_d corresponds to 125° while M_s extends below 196° . Heating of the Yal and Ya 1T steels billet flange at the first 150° drawout, lowers the stamping effort by 40 to 45% and increases the degree of drawout (K) from 2.08 to 2.6. During the second operation $K = 1.6$. In two operations the total K increases from 2.3 to 4.16. Cooling of the danger cross section permits to obtain $K = 3.1$ in a single operation, and $K = 5.2$ in 2 operations. At drawing out in 3 operations, at a temperature of last operation close to the liquid nitrogen temperature, $K = 1.5$ for the third operation, and summary $K = 7.2$. There is no need for an intermediate thermal treatment between the operations. Twelve figures, twelve references.
S. Shirman.

DATE ACQ: 21Jun63

SUB CODE: IE, MA

ENCL: 00

Card 2/2

1. 16762-63

EMP(q)/EMT(m)/BDS

AFPTC/ASD

JD

S/124/63/000/004/060/064

AUTHOR:

Martynov, V. P.

TITLE:

The influence of temperature and deformation on phasal gamma-approaches-alpha transformations and on the mechanical and technological properties of austenitic stainless steels 14

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 4, 1963, 59, abstract 4V504
(Tr. Khark'kovsk. aviats. in-ta, vyp. 21, 1961, 105-118)

TEXT: Control of the variation of phase composition is effected with the use of the magnetometric method, and also the X-ray diffraction method. The author describes his induction apparatus which affords fixation of phase variations directly during the process of deformation of steel, as well as determination of the change in magnetic susceptibility in the case of resilient deformation.

The author establishes regimens of low-temperature deformation (various successions of deformation at temperatures from -183° up to room temperature) which permit determining the high strength and plastic properties of austenitic steels. Rapid deformation by stretching leads to lowering of plastic properties, strengthening the process of localization of the deformation. Also lowered is plasticity without increase in strength, if there are small deformations at low temperatures.

Card 1/2

L 16762-63

S/124/63/000/004/060/064

The influence of

Stretching in the presence of lowered temperatures favors the transformations considerably more than stretching at room temperature. Orig. art. has: bibliography of 15 items. V. N. Geminov.

[Abstracter's note: Complete translation.]

Card 2/2

MARTYNOV, V.P., kand.tekhn.nauk

Increasing the industrial plasticity of stainless austenitic steel.
Metalloved. 1 term. obr. met. no.8:30, 35 Ag '62. (MIRA 15:11)

1. Khar'kovskiy aviatsionnyy institut.
(Steel, Stainless--Testing) (Metalwork)

L 40794-66 EWT(1)/EWT(m)/T/EWP(t)/ETI/EPF(k) IJP(c) JD/HW

ACC NR: AP6018610

SOURCE CODE: UR/0420/65/000/004/0104/0106

AUTHOR: Martynov, V. P.

ORG: Kharkov Aviation Institute (Khar'kovskiy aviatsionnyy institut)

TITLE: Increasing the productivity of stamping and drawing low-carbon steels

SOURCE: Samoletostroyeniye i tekhnika vozdushnogo flota

TOPIC TAGS: low carbon steel, metal drawing, ductility, temperature distribution

ABSTRACT: The author considers methods for increasing productivity in deep-drawing parts from low-carbon sheet steel. If the geometric design of the stamping tool is optimum, the number of passes can be reduced only by increasing the draw on each pass. Methods are discussed for improving the ductility of the steel and varying its resistance to deformation. This can be done by overall heating or setting up a variable temperature field in the workpiece. The temperature distribution is set up to soften the metal at the source of deformation, reduce the load on the critical cross section and increase the carrying capacity of the critical cross section. An improvement is observed in the drawing properties of the workpiece at temperatures above 450°C. A method is proposed for heating the section of the workpiece which is to be drawn without heating the periphery. This is in opposition to conventional practice where the flange is kept at a higher temperature than the critical cross section. The best

Cord 1/2

ACC NR: AP6018610

temperature range for this method is 210-250°C, i. e. the range corresponding to the most unfavorable conditions in conventional drawing methods. This method has the same effect as deformation aging on the critical section of the workpiece without preliminary operations and simultaneously increases the maximum drawing factor. Orig. art. has: 2 figures.

SUB CODE: 13// SUBM DATE: none/ ORIG REF: 003
//

Card 2/2

MARTYNOV, V.P.

Daily control in the Armenian power system. Izv.AN Arm.SSR.Est.
nauki no.9:33-53 '47. (MLRA 9:8)
(Armenia--Hydroelectric power stations)

MARTYNOV, V.P.

Universal index of the water power cycle of hydroelectric power
stations and the hydroelectric power system. Dokl. AN Arm. SSR
9 no.1:11-16 '48. (MLRA 9:10)

1. Gidroelektricheskaya Laboratoriya Akademii nauk Armyanskoy SSR,
Yerevan. Predstavleno I.V. Yagiasarovym.
(Hydroelectric power plants)

30812. MARTYNOV, I. P.

Energeticheskiy pokazatel' dlya analiza effektivnosti vodosilovogo
rezhima gidroelektricheskoy stantsii i gidroenergosistemy. Izvestiya (Akad.
nauk Arm. SSR), fiz.-matem, estestv. i tekhn. nauki, 1947, No. 2, s. 103-11. --
Rezyume na arm. yaz. -- bibliogr: 10 nazv.

MARTYNOV, Vladimir Pavlovich; BABAYAN L.A. redaktor. SKVORTSOV, I.M.
tekhnicheskiy redaktor.

[Increasing the power efficiency of hydroelectric power stations
operating in a power system] Povyshenie energeticheskoi effektiv-
nosti gidroelektrostantsii, rabotaiushchikh v energosisteme.
Moskva, Gos. energ. izd-vo, 1954. 119 p. (MIRA 8:2)
(Hydroelectric power stations)

MARTYNOV, V. P.

Electrical Engineering

Dissertation: "Some Problems in Determining, Analyzing, and Increasing the Efficiency of Hydroelectric Power Stations and Water Power Systems." Cand Tech Sci, Moscow Order of Lenin Power Engineering Inst imeni V. M. Molotov, 2 Apr 54. (Vechernyaya Moskva Moscow, 22 Mar 54)

SO: SUM 213, 20 Sep 1954

MARTYNOV, Vladimir Pavlovich

[Development of power engineering in Soviet Armenia; brief study][Puti razvitiia energetiki Sovetskoi Armenii; kratkii ocherk. Erevan, Armianskoe gos.izd-vo] 1957. 84 p.
(In Armenian)

(MIRA 12:10)

(Armenia--Electric power plants)

MARTYNOV, V.P.

Methods of determining soil organic substances soluble in alcohol
and benzol. Pochvovedenie no.5:100-101 My '57. (MLRA 10:9)

1. Kafedra pochvovedeniya Irkutskogo gosudarstvennogo universiteta
imeni A.A. Zhdanova.

(Soil--Analysis)

USSR/Soil Science - Soil Genesis and Geography

J

Abs Jour : Ref Zhur Biol., No 1, 1959, 1323

Author : Martynov, V.P.

Inst : Siberian Division of the AS USSR

Title : Solonetz and Solodized Character of Some Soils in
Irkutskaya Oblast'

Orig Pub : Izv. Sibirsk. otd. AN SSSR, 1958, No 2, 129-133

Abstract : It is assumed that some soils of Irkutskaya Oblast'
which belong to the turf-podzolic soils are solodized;
in connection with this a doubt is expressed as to the
expediency of liming them. Results are presented on
analyses of water extracts, alkaline (5% KOH) extracts,
determination of humus, pH, absorbed cations, and CO_2
of the carbonates. -- V.S. Muratova

Card 1/1

MARTYNOV, V.P.

Improvement of the Geisler-Maximiuk calcimeter. Pochvovedenie
no.5:92-93 My '58. (MIRA 11:6)

1.Irkutskiy gosudarstvennyy universitet im. A.A. Zhdanova, kafedra
pochvovedeniya.
(Soils--Analysis) (Carbon dioxide)

MARTYNOV, V.P.

Some data on soils of the Baikal mountain steppes. Izv.Sib.otsd.
AN SSSR no.1:103-113 '60. (MIRA 13:7)

1. Vostochno-Sibirskiy filial Sibirskogo otdeleniya AN SSSR.
(Baikal region--Soils)

KOTUL'SKIY, V.V., inzh.; IL'INA, O.V., inzh.; KIRICHENKO, N.I.,
kand. geol.-miner. nauk; MARTYNOV, V.S., inzh.; LYKOSHIN, A.G.,
kand. geol.-min. nauk, nauchn. red.; GLOTOVA, L.V., red.; KASIMOV, S.Ya.,
tekhn. red.

[Seepage-control curtains of dams; investigation, planning, and building] Protivofil'tratsionnye zavesy plotin;
iz opyta izyskaniy, proektirovaniya i stroitel'stva. Moskva, Gosstroizdat, 1963. 194 p. (MIRA 17:2)

11. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut vodosnabzheniya, kanalizatsii, gidrotekhnicheskikh sooruzheniy i inzhenernoy gidrogeologii.

YAGUZHINSKIY, I.S.; MARTYNOV, N.S.; VARDANYAN, S.A.

Synthesis of O-(2,4-diaminophenyl)-L-tyrosine. Dokl. Akad. Nauk SSSR.
35 no.7:1311-1313 Jul '65. (MIRA 18:P)

1. Institut eksperimental'noy i klinicheskoy onkologii AMN SSSR.

MARTYNOV, V.P.; MAKKEYEV, O.V., doktor geol.-miner. nauk, otv. red.

[Soils in the Lake Baikal mountain region] Pochvy gornogo
Pribaikal'ia. Ulan-Ude, Buriatskoe knizhnoe izd-vo, 1965.
164. p. (MIRA 18:11)

MARTYNOV, V.S.; SHATSILLO, E.N.

Building an earth dam on noncohesive silt-loam soils. Trudy
VODGEO no.6:26-36 '64. (MIRA 18:3)

MARTYNOV, V.S.; MAKAROVA, A.N.; BERLIN, A.Ya.

2,6-Difluoro-3,5-diethylenimino-1,4-benzoquinone. Zhur. ob.
klim. 34 no.8:2807-2808 Ag '64. MIRA 17:91

1. Institut eksperimental'noy i klinicheskoy onkologii ANU SSSR.

MAKAROVA, A.N.; MARTYNOV, V.S.; BERLIN, A.Ya.

Diaminodiethyleneiminobenzoquinones. Part 1: Reactions of
fluoranil with amines and with esters of α -amino acids. Zhur.
ob. khim. 33 no.5:1643-1647 My '63. (MIRA 16:6)

1. Institut eksperimental'noy i klinicheskoy onkologii AMN SSSR.
(Benzoquinone) (Amines) (Amino acids)

L 12341-63

EWT(m)/BDS RM

S/081/63/000/005/033/075

53

AUTHOR: Makarova, A. N., Gribkova, M. P. Martynov, V. S. and Berlin, A. Ya.TITLE: Substitution reactions in a series of derivatives of benzoquinone-1,4PERIODICAL: Referativnyy zhurnal, Khimiya, no. 5, 1963, 203-204, abstract 5Zh131
(Puti sinteza i izyskaniya protivopukholevykh preparatov, M. Medgiz, 1962, 165-174)

TEXT: Substitution reactions were investigated of functional groups by the amino-groups in 2,5-diethylenimino-3-R-6-R'-benzoquinones-1,4 (I), 2,6-diethylenimino-3,5-dichlorbenzoquinone-1,4 (II) and 6-monoethylenimino-2,3,5-trichlorbenzoquinone-1,4 (III). In almost all cases anomalous trends were discovered in the reactions. Thus, in treating I with primary amines R''NH₂ a substitution of ethylenimino groups by amino groups occurs with formation of corresponding 2,50(R''NH)₂-3-R-6-R'-benzoquinones-1,4 (IV). The speed of reaction depends, to a significant degree, on the nature of the replacements and on the basic characteristics of the amines. The following IV were obtained (below are given R, R', R'', time of reaction in min, yield of IV in % and m.p. in °C): H, H, iso-C₃H₇, 40, 90, 240 - 241; H, H, C₆H₁₁, 18, 94, 239 - 240; H, H, C₆H₅, 10, 80, 250 - 251; H, Cl iso-C₃H₇,

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L 12311-63

8/081/63/000/005/033/075 /

Substitution reactions in

20, 63, 157 - 158; H, Cl, $C_6H_5CH_2$, 3, 80, 207 - 208; H, OC_2H_5 , $C_6H_5CH_2$, 440, 34, 204 - 205; Cl, Cl, $iso-C_3H_7$, 30, 95, 200 - 223; Cl, Cl, C_6H_{11} (IVa), 13, 93, 233 - 234; Cl, Cl, $C_6H_5CH_2$ (IVb), 5, 90, 220 - 223; Cl, Cl, C_6H_5 , 120, 55, 285 - 286.

II reacted in the same manner, but significantly slower. Concurrently, the exchange of the atoms of chlorine with amine groups occurred, leading to IVa, b with yields of 50 and 30% respectively. The regrouping mechanism was not studied. Only in the case of III initially or concurrently with the replacement of the ethylenimino group the replacement of the Cl atom by amine groups occurred with formation of 2-ethylenimino-5-(N-morpholinyl)- or 2-ethylenimino-5-cyclohexylamino-3,6-dichloroquinone. Already at 20°C it appeared possible to obtain satisfactory yields of reaction products. The same behavior was confirmed on the example of reactions of I - III with methyl or ethyl ester of α -aniline (V). However, fluoranalogs of I - III under the same conditions disclosed considerable mobility of the F atom, sufficient, for preparative purposes. In the treatment of aniline fluoride with 4 moles of ethylenimine (VI), V or ethyl ester of α -phenyl- β -aniline were obtained (here and henceforth are shown the substance, the yield in %, and m.p. in °C): 2,5-diethylenimino-3,6-difluorquinone (VII), 72, 211 - 213; diethyl ester of 2,5-

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1 12341-6)

S/081/63/000/005/033/075 O

Substitution reactions in

di-(N-alanino)-3,6 difluorquinone, 75, 132 - 133 and 178 - 179 (dimorphism); diethyl ester of 2,5-di-(N-phenylalanino)-3,6-difluorquinone, 76, 123 - 124 and 179 - 180. In reaction of VII with amines and esters of amino acids a total substitution of F atom occurs with formation of corresponding (same data are presented): 2,5 diethyl-enimino-3,6-dipiperidinoquinone, 84, 175 - 176; diethyl ester of 2,5-diethylenimino-3,6-dipiperidinoquinone, 84, 175 - 176; diethyl ester of 2,5-diethylenimino-3,6-di-(N-alanino)-quinone, 25 - 30, 147.5 - 148; diethyl ester of 2,5-diethylenimino-3,6-di-(N-phenylalanino)-quinone, 20, 178 - 179. A synthesis of diethyleniminoquinones with amid groups was accomplished. For this by heating 2,5-dichloracetamino-3,6-dichlorquinone (VIII) with NH_3 in dioxane there was obtained 2,5-diglycylamino-3,6-dichlorquinone (IX), with yield of 85%, decomposition temperature $> 360^\circ\text{C}$. The heating of IX in medium VI led to 2,5-diglycylamino, 3,6-diethylenimino-quinone (X), yield 65%, temp. variable $> 360^\circ\text{C}$. In the actions on X HCl (concentrate) there occurs a fractionizing of heterocycles with formation of chlorhydrates of 2,5-diglycylamino-3,6-di (β -chlorethylamino)-quinone, yield 65%, decomposition temperature $> 360^\circ\text{C}$. In the action of VI on solutions VIII in dioxane was obtained 2,5-di-(ethyleniminoacetamino)-3,6-dichlorquinone (XI), yield 75%, m.p. 197°C (decomp.). The treatment of VII or XI with excess VI led to

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L 12341-63

S/081/63/000/005/033/075

Substitution reactions in

a complete replacement of the Cl atoms with formation of 2,5-di-(ethyleniminoaceta-mino)-3,6-diethyleniminoquinone (XII), yield 80%, m.p. 217°C (decomp.). Under the action of HCl or HCl gas on XII or XI, corresponding β -chloroethylamines were obtained. On the basis of the data obtained a series of replacements in the nucleus of benzoquinone were established in order of ease when treated with amines or esters of amino acids. A series of synthesized substances were forwarded for oncological testing. S. Suminov.

[Abstractor's note: Complete translation]

Card 4/4

MARTYNOV, V.S., kand.sel'skokhozyaystvennykh nauk; TOYMISTOV, N.I., zootekhnik

Some problems in breed work. Zhivotnovodstvo 21 no.2:12 P '59.

(MIRA 12:3)

1. Mariyskaya sel'skokhozyaystvennaya opytnaya stantsiya.
(Dairy cattle)

ACCESSION NR: AP4026140

S/0106/64/000/003/0051/0058

AUTHOR: Marty*nov, V. S.; Bauman, E. D.

TITLE: Low-frequency minimum-weight LC delay lines

SOURCE: Elektrosvyaz', no. 3, 1964, 51-58

TOPIC TAGS: delay line, LF delay line, LC delay line, minimum weight delay line

ABSTRACT: Low-frequency delay lines consist mainly of low-pass-filter and phase-shift-circuit sections. Π -sections, T-sections, and Pierce unsymmetrical sections (Wallis, "Electrical Engineering," Dec., 1952) are compared. It is proven that, with any section, an optimum characteristic impedance exists which makes the section weight minimum; formulas for the optimum impedance and minimum weight of section components are developed. It is found that the Pierce section has the lowest weight. This data for 6 types of LF delay lines is

Cord 1/2

ACCESSION NR: AP4026140

compared: optimum characteristic impedance, delay deviation, number of coils, number of capacitors, weight, and band-utilization factor. "In conclusion, the authors wish to thank Doctor of Technical Sciences, Professor A. F. Beletskiy for his valuable comments." Orig. art. has: 6 figures, 12 formulas, and 2 tables.

ASSOCIATION: none

SUBMITTED: 01Dec62

DATE ACQ: 17Apr64

ENCL: 00

SUB CODE: EC

NO REF SOV: 002

OTHER: 001

Card 2/2

L 55240-65

ACCESSION NR: AP5015534

UR/0286/65/000/008/0069/0069

AUTHOR: Martynov, V. S.

TITLE: Method for measuring the probability density distribution of a random quantity. Class 42, No. 170216

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 8, 1965, 69

TOPIC TAGS: random variable, probability, distribution function, time interval counter

ABSTRACT: This Author Certificate presents a method for measuring the probability density distribution of a random quantity. To simplify and to speed the measuring process, the random quantity is converted into a voltage proportional to it. The voltage controls a pulse generator with the pulse sequence frequency proportional to this voltage. The pulses are fed to a time distributor which sorts the pulses along parallel channels, depending on the time interval between the pulses. The channels contain integrators whose output voltages give a discrete approximation of the probability density of the investigated quantity.

ASSOCIATION: Organizatsiya gosudarstvennogo komiteta po radioelektronike SSSR)
(Organization of the State Committee for Radio Electronics SSSR)

Card 1/2

L 55240-65

ACCESSION NR: AP5015534

SUBMITTED: 15Mar63

ENGL: 00

SUB CODE: EG, MA

NO REF SOV: 000

OTHER: 000

Card 2/2

L 24546-66 ENT(d)/FSS-2

ACC NR: AP6006323

SOURCE CODE: UR/0413/66/000/002/0043/0044

AUTHORS: Martynov, V. S.; Alekseyev, A. T.; Bauman, R. D.

ORG: none

TITLE: A method of separating tone-noise signals. Class 21, No. 177939

SOURCE: Izobreteniya, promyshlennyye obrasty, tovarnyye znaki, no. 2, 1966, 43-44.

TOPIC TAGS: voice identification, voice communication, signal noise separation

ABSTRACT: This Author Certificate presents a method of separating tone-noise signals in devices with "companding" (contraction-expansion) of the voice signal. The method is based on the difference in structure of the spectrum of the tone sound and of the noise. It separates the main tone from the spectrum with the help of groups of narrow band filters of the low frequency region in the voice range, and then selects the maximum and the minimum of the signal. The method increases the reliability of the separation in conditions when the present spectrum of the noise does not have sharp dips. The voltages obtained from each group of filters (the band of frequencies of which is equal to the width of the

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UDC: 621.395.1.01--534.4

L 24546-66

ACC NR: AP6006323

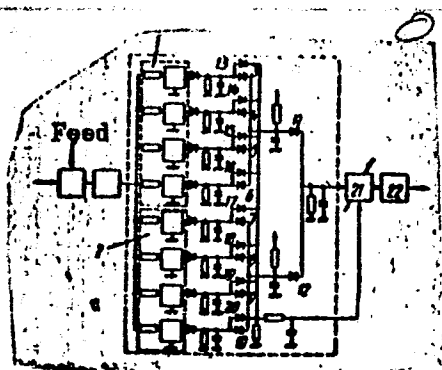
first formant of the sounds), after being separated by the diodes of the minimum values, are fed to the other diodes for selection of the amplitude maximum. The rectified voltages from all narrow band filters (after the appearance of the maximum values) are fed simultaneously through three groups of diodes to the functional unit. The output signal of the functional unit is inversely proportional to the maximum voltage of the groups. The latter voltage is fed to one of the inputs and is directly proportional to the maximum voltage of all narrow band filters (see Fig. 1). A binary tone-noise signal is obtained at the output of the cutoff unit based on the selected ratios of the two voltages.

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1. 24546-66

ACC NR: AP6006323

Fig. 1. 1 and 2 - groups of narrow band filters; 3 to 10 - diodes for the selection of minimum values; 11 and 12 - diodes for the selection of the amplitude maximum; 13 to 20 - three groups of diodes; 21 - functional output unit; 22 - cutoff unit.



Orig. art. has: 1 figure.

SUB CODE: 09/ SUBM DATE: 02Jan64

Card 3/3 *mg S*

MARTYNOV, V.T.

Detection of submarine landslides on the tape of the echo sounder.
Probl.Arkt. no.3:95-101 ' 58. (MIRA 12:1)
(Sonar) (Kara Sea--Landslides)

MARTYNOV, V.V.

Coal mining industry in China. Biul.tekh.-ekon.inform.no.2:84-85
'59. (MIRA 12:3)
(China--Coal mines and mining)

MARTYNOV, V.V.

Coal mining in the Korean People's Democratic Republic. Ugol' 35
no.6:54-56 Je '60. (MIRA 13:7)
(Korea, North--Coal mines and mining)

MARTYNOV, V.V.

Power engineering in the Korean People's Democratic Republic. Energokhoz.
za rub. no.4:1-5 J1-Ag '60. (MIRA 13:10)
(Korea,North--Electric power)

MARTYNOV, V.V.

Water-power resources of the Korean People's Democratic Republic
and their use. Gidr. stroi. 30 no.10:56-58 0 '60. (MIRA 13:10)
(Korea, North--Hydroelectric power)

MACTING, 7.7.

Conditions for the discreteness and continuity of the spectrum in the case of a self-adjoint system of differential equations of the first order. Dokl. Ak. Nauk SSSR no. 1:70-72, 1969. (1: A 14:1)

1. Moskovskiy Vkhodno-tekhnicheskij Institut. Dated June 1, 1969.

MARTYNOV, V.V.

Discretion and continuity of the spectrum in the case of a
self-adjoint system of differential equations of even order.
Dif. urav. 1 no. 12:1578-1591 D '65. (MIRA 18:12)

1. Moskovskiy fiziko-tekhnicheskii institut. Submitted April
19, 1965.

ACC NR: AP7005104

SOURCE CODE: UR/0144/66/000/005/0549/0552

MARTYNOV, V. V.

"Transducer of induction and Magnetization of Samples of Magnetically - Hard Materials"

Moscow, Izvestiya VUZ - Elektromekhanika, No. 5, 66 pp. 549-552.

Abstract: The permanent magnets laboratory of the Novocherkassk Polytechnical Institute has developed a transducer which eliminates the necessity of applying a winding to a sample in order to take the $B = f(H)$ characteristic and allows production of a relatively high e.m.f. values even when small samples are being tested. The transducer is made in the form of a polar tip to be used with an ordinary permeameter. The measuring portion of the transducer consists of two windings placed in concentrically located channels on the surface of the tip. The windings are counter-connected and have equal constants. This transducer allows both the value of induction and of magnetization of samples being tested to be measured. It considerably speeds the operation of testing and allows it to be automated. It allows production of rather high e.m.f. from rather small samples for which the usage of a large number of turns in a B winding would be very difficult. Orig. art. has: 2 figures and 5 formulas. [JPRS: 37,564]

ORG: none

TOPIC TAGS: magnetization, integrated electronic device

SUB CODE: 09, 20 / SUBM DATE: 16Nov65 / ORIG REF: 003

Card 1/1

UDC: 621.3.042+621.318.5

MARTYNOV, V.Ya., mayor med.sluzhby, KOZLOV, Yu.A., kapitan med.sluzhby
~~NIKOLUSOV~~, G.P., leytenant med.sluzhby

Oxygen treatment for ascariasis at medical stations. Voen.-med.
zhur. no.8:68-69 Ag '56 (MIRA 12:1)
(ASCARIDS AND ASCARIASIS)
(OXYGEN—THERAPEUTIC USE)

L 20421-66 EWT(d)/EWT(m)/EWP(f)/EWP(v)/T-2/EWP(k)/EWP(h)/EWP(l)
ACC NR: AP6009890 SOURCE CODE: UR/0413/66/000/004/0083/0083

INVENTOR: Martynov, V. Ye.

ORG: none

TITLE: Fuel flow-rate control for an aviation turbojet engine.
Class 42, No. 179025

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 4,
1966, 83

TOPIC TAGS: turbojet engine, aircraft fuel system

ABSTRACT: The proposed fuel control device contains an air-temperature transducer at the engine inlet, a pressure transducer indicating pressure drop at the inlet and exit of the compressor, and a non-automatic throttle valve. The position of this valve is determined by a control lever. To ensure stable engine operating regimes under varying external conditions and to prevent surge during engine acceleration, the device is equipped with a mechanical differential which integrates the displacement of the temperature transducer sensor and the control lever. The differential outlet is connected to the automatic throttle valve assemble which is mounted on the piston of

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UDC: 62—533.65

I. 20421-66

ACC NR: AP6009890

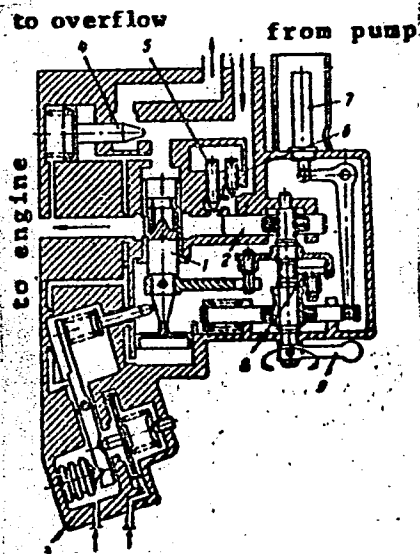


Fig. 1. Fuel control

1 - Automatic throttle valve; 2 - non-automatic throttle valve; 3 - pressure transducer; 4 - constant pressure drop needle of throttle valve; 5 - regulating screw for low gas flow rate; 6 - fuel flow regulating screw; 7 - temperature transducer sensor; 8 - differential; 9 - control lever.

a servomotor. The cylinder of this motor is, in turn, connected to the pressure transducer (see Fig. 1). Orig art. has: 1 figure. [TN]

SUB CODE: 21/ SUBM DATE: 13May63/ ATD PRESS: 4222

Card 2/2 ULR

MARTYNOV, Ya.

On Tokyo's streets. Vokrug sveta no.10:24-28 0 '54. (MLBA 7:10)
(Tokyo)

L 13384-63

EPR/EWP(j)/EPP(c)/EWT(l)/EWT(m)/HDS AFFTC/ASD Ps-L/Pc-L/

FF-X (H/RM/HW)

S/0120/63/000/003/0161/0164

ACCESSION NR: AP3002745

AUTHOR: Livshits, L. D.; Martyanov, Ye. D.

TITLE: Laboratory outfit for compressing liquids up to 20,000 atm

SOURCE: Priory* i tekhnika eksperimenta, no. 3, 1963, 161-164

TOPIC TAGS: liquid compression, pressure generator

ABSTRACT: A small-size pressure generator intended for compressing 130 cm³ of a nonaggressive liquid up to 20,000 atm is described. Test vessels can be connected to the generator for the purpose of various physical studies involving high pressures within a temperature range limited by the freezing point and the decomposition point of the pressure-transmitting liquid and by the test-vessel strength. The pressure generator comprises two cascade-connected pressure multipliers, 12,000 and 20,000 atm, and a special hydraulic valve. The generator was used for studying phase transformations in cerium and teflon and is said to be entirely adequate for high-pressure laboratory work. "In conclusion, the authors wish to thank Yu. N. Ryabinin for his valuable hints in designing the apparatus." Orig. art. has: 3 figures and 1 table.

Card 1/2 Association: Inst. of Chemical Physics, AN SSSR

73
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L 16301-65 EWT(m)/EWP(w)/EWA(d)/EWP(t)/EWP(k)/EWP(b) Pr-L IJP(c)/AFWL MJW/
 S/0126/64/018/003/0437/0442
 ACCESSION NR: AP4046094 JD/HW/JT

AUTHOR: Bulychev, D. K.; Beresnev, B. I.; Gaydukov, M. G.;
 Martyanov, Ya. D.; Rodionov, K. P.; Ryabinin, Yu. N.

TITLE: Healing porosity and cracks in metals by plastic deformation
 under high hydrostatic pressure

SOURCE: Fizika metallov i metallovedeniye, v. 18, no. 3, 1964,
 437-442

TOPIC TAGS: metal defect, hydrostatic pressure, defect healing

ABSTRACT: Experiments have been conducted to explore the possibility
 of eliminating defects in metals with high hydrostatic pressure. The
 H2 copper specimens with artificial defects such as microcavities and
 microcracks were subjected to a hydrostatic pressure of up to 100,000
 atm. Compression on accompanied by plastic deformation was found to
 have no effect on the number or size of defects, since it created
 mainly elastic deformation and only an insignificant amount of plastic
 deformation. However, when defective specimens were subjected to a
 tensile test under hydrostatic pressure, the defects were either

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L 16301-65

ACCESSION NR: AP4046094

entirely eliminated or was reduced in size to such an extent that they could not be discovered by optical microscope and did not effect adversely mechanical properties of the metal (see Fig. 1 of the Enclosure). The intensity of defect healing increases with the increasing pressure and plastic deformation. Orig. art. has: 4 figures. 2

ASSOCIATION: Institut fiziki metallov AN SSSR (Institute of Physics of Metals, AN SSSR); Institut fiziki zemli AN SSSR (Institute of Physics of Earth, AN SSSR)

SUBMITTED: 20 Nov 63

ENCL: 01

SUB CODE: NM

NO REF SOV: 009

OTHER: 002

Card 2/3

L 16301-65
ACCESSION NR: AP4046094

ENCLOSURE: 01

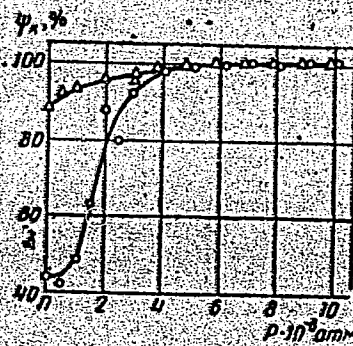


Fig. 1. Ductility of sound (1) and defective (2) specimens of M2 copper versus hydrostatic pressure

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L 18318-65 EWL(m)/EWA(d)/EWP(t)/EWP(k)/EXP(b) Pf-l IJP(c) JD/HW
 S/0126/64/018/005/0778/0783

ACCESSION NR: AP5001248

AUTHOR: Beresnev, B. I.; Bulychev, D. K.; Gaydukov, M. G.; Martynov, Ye. D.; Rodionov, K. P.; Ryabinin, Yu. N.

TITLE: Healing of pores and cracks in copper by extrusion with a high-pressure fluid

SOURCE: Fizika metallov i metallovedeniye, v. 18, no. 5, 1964, 778-783

TOPIC TAGS: copper, copper defect, metal defect, density defect healing

ABSTRACT: The healing of microscopic pores and cracks in metal by plastic deformation has been investigated. Specimens of sound copper and copper with artificially produced pores and cracks were hydrostatically extruded or drawn with a 5-68% reduction at room temperature. Both methods of deformation increased the tensile and yield strengths, reduction of area, and density of both sound and defective specimens; extrusion did so to a greater extent than drawing (see Figs. 1 and 2 of the Enclosure). The mechanical properties and density of defective copper changed slightly with small reductions (5-8%) but increased appreciably with increasing reduction; with a reduction of 40% they

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